

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application.

1-22. (cancelled)

23. (currently amended) A composition comprising:

- (a) a population of neural cells enriched for neurosphere initiating stem cells (NS-IC) produced by:
  - (1) combining a population comprising neural cells or neural-derived cells containing a fraction of NS-ICs with monoclonal antibody AC133 or monoclonal antibody 5E12 (ATCC Accession No. PTA-994); and
  - (2) selecting and isolating those cells that bind to monoclonal antibody AC133 or monoclonal antibody 5E12, thereby producing a population of cells enriched for NS-IC as compared with the population of neural cells or neural-derived cells; and
- (b) at least one monoclonal antibody selected from the group consisting of monoclonal antibody AC133 and monoclonal antibody 5E12, wherein the at least one monoclonal antibody is conjugated with a label.

24.-26. (cancelled)

27. (currently amended) An *in vitro* cell culture composition comprising:

- (a) a population of neural cells enriched in NS-IC, wherein the NS-IC bind to monoclonal antibody AC133 or to monoclonal antibody 5E12 (ATCC Accession No. PTA-994) and are CD45<sup>+</sup> cells;
- (b) a medium capable of supporting the growth of the cells; and
- (c) at least one monoclonal antibody selected from the group consisting of monoclonal antibody AC133 and monoclonal antibody 5E12, wherein the at least

one monoclonal antibody is conjugated with a label.

28. (currently amended) An *in vitro* cell culture composition comprising:
- (a) a population of neural cells enriched in NS-IC, wherein the NS-IC bind to monoclonal antibody AC133 or to monoclonal antibody 5E12 (ATCC Accession No. PTA-994) and are CD45<sup>+</sup> CD34<sup>+</sup> cells;
  - (b) a medium capable of supporting the growth of the cells; and
  - (c) at least one monoclonal antibody selected from the group consisting of monoclonal antibody AC133 and monoclonal antibody 5E12, wherein the at least one monoclonal antibody is conjugated with a label.
29. (currently amended) An *in vitro* cell culture composition comprising:
- (a) a population of neural cells enriched in NS-IC, wherein the NS-IC bind to monoclonal antibody AC133 or to monoclonal antibody 5E12 (ATCC Accession No. PTA-994) and are CD24<sup>+</sup> cells;
  - (b) a medium capable of supporting the growth of the cells; and
  - (c) at least one monoclonal antibody selected from the group consisting of monoclonal antibody AC133 and monoclonal antibody 5E12, wherein the at least one monoclonal antibody is conjugated with a label.
- 30-31. (cancelled)
32. (previously presented) The composition of any one of claims 23 and 27-29, further comprising a solid support to which the cells are attached.
33. (previously presented) The composition of any one of claims 23 and 27-29, wherein the population of cells comprises at least 70% cells that bind to monoclonal antibody AC133 or monoclonal antibody 5E12.

34. (previously presented) The composition of any one of claims 23 and 27-29, wherein the population of cells comprises at least 90% cells that bind to monoclonal antibody AC133 or monoclonal antibody 5E12.
35. (previously presented) The composition of any one of claims 23 and 27-29, wherein the population of cells that bind to monoclonal antibody AC133 or monoclonal antibody 5E12 is a substantially pure population.
36. (previously presented) The composition of any one of claims 23 and 27-29, wherein the medium comprises a serum-free medium containing one or more growth factors effective for inducing multipotent neural stem cell proliferation.
37. (previously presented) The composition of any one of claims 23 and 27-29, wherein the medium comprises a growth factor selected from the group consisting of leukocyte inhibitory factor (LIF), epidermal growth factor (EGF), basic fibroblast growth factor (FGF-2), and combinations thereof.
38. (previously presented) The composition of any one of claims 23 and 27-29, wherein the medium comprises neural survival factor, NSF.
39. (previously presented) The composition of any one of claims 23 and 27-29, wherein the neural cells are human.
- 40.-43. (cancelled)
44. (new) The composition of any one of claims 23 and 27-29, wherein the label is selected from the group consisting of magnetic beads, biotin, fluorochromes, and haptens.